

IN THE CLAIMS

What is claimed is:

- 1   **1.**   A method, comprising the steps of:
  - 2                 bending a substrate by applying a force with a movable chuck portion
  - 3                 to orient essentially all of a surface of the substrate at a predetermined angle
  - 4                 with respect to an input source.
  
- 1   **2.**   The method of claim 1, wherein:
  - 2                 the substrate comprises a silicon wafer having a diameter of at least
  - 3                 about eight inches.
  
- 1   **3.**   The method of claim 1, wherein:
  - 2                 the force comprises an electrostatic force generated by a potential
  - 3                 difference between the substrate and the movable chuck portion.
  
- 1   **4.**   The method of claim 1, wherein:
  - 2                 the movable portion comprises a split electrode electrostatic chuck.
  
- 1   **5.**   The method of claim 1, wherein:
  - 2                 bending the substrate includes receiving the substrate in a recess
  - 3                 having a concave shape.

1       6. The method of claim 5, wherein:

2                  bending the substrate includes introducing a curvature into the  
3                  substrate selected from the group consisting of spherical, conical and  
4                  cylindrical.

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1       7. The method of claim 1, wherein:

2                  applying the force with a movable chuck portion includes attracting  
3                  the substrate to the movable portion with an electrostatic force when the  
4                  substrate has an essentially unbent shape, and moving the movable chuck  
5                  portion with respect to a stationary substrate receiving portion.

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1       8. The method of claim 1, wherein:

2                  applying the force with a movable chuck portion includes moving the  
3                  movable chuck portion with respect to a stationary substrate receiving portion  
4                  to bend the substrate.

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1       9. The method of claim 8, further including:

2                  attracting the substrate receiving portion to a curved stationary  
3                  substrate receiving portion with an electrostatic force.

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1   **10.**   A method of processing a integrated circuit wafer, comprising the steps of:

2                 placing a wafer over a concave chuck portion ;

3                 applying a force to the wafer to conform to the concave chuck

4                 portion;

5                 maintaining the wafer in the deformed shaped as the wafer is

6                 processed with respect to an input source.

1   **11.**   The method of claim 10, wherein:

2                 placing the wafer over the concave portion includes attracting the

3                 wafer with an electrostatic force to the concave portion.

1   **12.**   The method of claim 12, wherein:

2                 attracting the wafer includes applying a voltage to an electrostatic

3                 chuck within the concave portion.

1   **13.**   The method of claim 10, wherein:

2                 placing the wafer over the concave portion includes orienting the

3                 wafer in a first direction; and

4                 the force is applied with a movable chuck portion at an angle greater

5                 than 45° with respect to the first direction.

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1      **14.**    The method of claim 13, wherein:

2                 placing the wafer over the concave portion includes contacting a

3                 stationary chuck portion with a first side of the wafer; and

4                 the force is applied by a movable portion to a second side of the wafer

5                 that is opposite to the first side.

1      **15.**    The method of claim 13, wherein:

2                 placing the wafer over the concave portion includes contacting a

3                 stationary chuck portion with a first side of the wafer; and

4                 the force applied by the movable portion is an electrostatic force that

5                 attracts the first side of the wafer to the movable portion.

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1   **16.**   A system, comprising:

2                 an input source for processing the substrate according to a

3                 predetermined manufacturing step;

4                 a chuck system having

5                 a substrate receiving surface that receives the substrate in an

6                 essentially non-deformed shape, and

7                 a force applying portion that applies an attractive force

8                 between the substrate and the chuck system that maintains the

9                 substrate in a deformed shape.

1   **17.**   The system of claim 16, wherein:

2                 the input source comprises an ion implantation source.

1   **18.**   The system of claim 16, wherein:

2                 the substrate receiving surface has a type of curve selected from the

3                 group consisting of spherical, conical, and cylindrical.

1   **19.**   The system of claim 16, wherein:

2                 the force applying portion includes a movable portion that moves with

3                 respect to the substrate receiving surface to change the substrate from the non-

4                 deformed shape to the deformed shape.

1   **20.**   The system of claim 19, wherein:

2                 the force applied by the movable portion is selected from the group

3                 consisting of electrostatic force and mechanical force.

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